

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF APPEALS AND INTERFERENCES

Application No. : 09/638,032
Confirmation No. : 5400
Applicant : T. Kanemitsu
Filed : Aug. 15, 2000
Title : Method of producing a rotary member made
of a metallic plate
TC/A.U. : 3725
Examiner : L. A. Larson
Docket No. : KANE3012/FJD
Customer No. : 23364

BRIEF ON APPEAL

Commissioner for Patents
P.O. Box 1450
Alexandria, VA. 22202-3514

Sir:

INTRODUCTORY COMMENTS

Pursuant to the provisions of 37 CFR 41.37, submitted herewith is Applicant/Appellant's Brief on Appeal along with the required fee. The period for response has been extended to expire on August 1, 2006, by filing herewith a Petition for a Three Month Extension of Time and payment of the required fee.

Any additional fees necessary for this appeal may be charged to the undersigned's Deposit Account No. 02-0200.

REAL PARTY IN INTEREST

(37 CFR 41.37(c)(1)(i))

The real party in interest is Applicant/Appellant's assignee Kabushi Kanemitsu Kaisha. The assignment was recorded on November 4, 1993 at Reel 6910 and Frame 0605.

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08/02/2006 JADD01 00000020 09638032
Adjustment date: 08/03/2006 JADD01 250.00 OP
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RELATED APPEALS AND INTERFERENCES

(37 CFR 41.37(c)(1)(ii))

There was an earlier appeal with respect to the invention defined in this application. This appeal was decided by the Decision dated June 15, 2000.

STATUS OF CLAIMS

(37 CFR 41.37(c)(1)(iii))

Claims 7 - 12 are pending in this application.

Claims 7 - 12 have been finally rejected.

STATUS OF AMENDMENTS

(37 CFR 41.37(c)(1)(iv))

No amendment was filed after issuance of the Office Action of September 1, 2005.

SUMMARY OF CLAIMED SUBJECT MATTER

(37 CFR 41.37 (c)(1)(v))

(References are to page and line of the specification)

A method of producing a rotary member from a metallic plate is claimed. For this purpose, circular, plate-like metallic blank is utilized (page 10, lines 13 and 14). The fabricating sequence is shown in Figs. 1A-7B of the drawings. The blank 1 is placed in the mold-die (2-3), drawn and given the shape shown in Fig. 1B. It is then placed in the mold-die shown in Figs. 2A-2B (page 11, lines 10-20) and further drawn to the shape shown in Fig. 2B. The sequence proceeds to forming a case-like boss as shown in Figs. 3A-3B to Figs. 6A-6B (page 11, lines 21-25 to page 12, line 16). The bent blank 1 is further bent using progressively

different molds 12, 13. As a result, an arcuate portion 1b of the blank 1 is formed, which is squeezed and bent in the direction opposite to the convex direction of the blank 1 (page 12, lines 9-11). As a result, the arcuate portion 1b is deformed along the outer peripheral surface of each punch 12a, thus forming a case-like boss 6 having a bottom at the center of the blank 1 and an annular flat portion 5 at the outer periphery of the case-like boss 6 (page 12, lines 11-16). Next, the boss 6 is axially compressed (Figs. 6A-6B) such that the bottom 6a becomes flat and is located at a predetermined height (page 12, lines 21-24).

Finally, as shown in Figs. 7A-7B, the blank 1 consisting of the boss 6 and annular flat portion 5 is placed in mold 22-23 and formed to include a peripheral wall 7 at the outer periphery of the annular flat portion 5 (page 14, lines 18 and 19).

In all of these steps, the outer edge of the portion (flange) 5 is restrained. In addition, in forming the peripheral wall 7 the boss 6 is restrained from being deformed. This prevents the material of blank 1 from flowing in both inward and outward directions (page 14, lines 22-25 to page 15, line 4).

GROUND OF REJECTION TO BE REVIEWED ON APPEAL

(37 CFR 41.37(c)(1)(vi))

Claims 7 - 12 are rejected under 35 USC 112, first paragraph, as failing to comply with the enablement requirement.

The examiner repeats the Board's statement that the specification does not disclose how the metallic blank of the invention is drawn while at the same time producing a rotary member that includes a boss and a flange having the same thickness.

ARGUMENTS
(37 CFR 41.37(c)(1)(vii))

(1)

The final rejection states that "the specification does not disclose how the metallic blank of the invention is drawn while at the same time producing a rotary member that includes a boss and a flange having the same thickness, as required by the claims..."

There are two independent claims on appeal, namely, claims 7 and 8. Neither of these claims claim that the plate-like metallic plate is "drawn." Instead, both claims state that the plate-like metallic blank is curved ("curving a plate-like metallic blank"), and then bent ("bending said resulting arcuate portion"). The curving partly produces the boss and the bending completes the formation. Please refer to page 4 of the specification, lines 6 - 14, which tells us:

....curving a metallic blank such that the blank is convex in the direction in which a boss is adapted to project [partial formation]; and bending, with the outer peripheral edge portion of the curved blank restrained from extending radially outwardly, the resulting arcuate portion of the blank in the direction opposite to the convex direction thereof, so that a case-like boss having a bottom and an annular flat portion are formed [complete formation].

The curving and then bending "using a plurality of molds " should not present a problem as to enablement. It is known that an inventor need not explain every detail since he addresses his comments to the person of skill in the art, *In re Howarth*, 210 USPQ 689 (CCPA 1981). The curving step is shown in Figs 1A to 2B. The procedure shown can be done on a punch-press machine, which can be found in just about any

machine shop. The curved part shown in Fig. 2B is then bent as shown in Figs 3A to 6B. The result is what is shown in Fig. 6B. The boss is clearly shown as is the flange. Is it necessary for the thickness of the boss and the flange to be the same? No. But here it is as shown in the noted figures. Note also, the disclosure on page 18 of the specification, and in particular lines 3 - 5 , which states that ".....bending operations so that the original thickness of the lank is not decreased so much in the course of the production steps."

Consider page 13, lines 6 - 11 of the specification which state:

This perfectly prevents the material of the blank 1 from flowing in the radially outward direction, but causes the material of the blank 1 to flow toward the case-like boss 6. Accordingly, the case-like boss 6 can be securely thickened and the linear portion of the case-like boss 6 can be securely lengthened.

Page 6, lines 17 - 20 which state:

This restrains the blank from being reduced in thickness due to a plastic flow of the blank material, thus restraining the strength from being lowered.

And page 18, lines 1 - 4 which state:

.....which has a desired diameter, a desired thickness and ...so that the original thickness of the blank is not decreased.

Forming a rotor from a flat plate (initial configuration) so that the rotor has a boss and a flange each having the same thickness is, it is respectfully submitted, clearly disclosed when the above is considered, so that enablement exists, certainly for the person skilled in the art.

(2)

The declaration of Mr. Takahashi does address the Neumeyer patent . It implies in its averment that the present invention does maintain the same thickness, whereas Neumeyer does not. It's value lies in reveling that what Neumeyer does not do, the present invention does. It should be considered in that light.

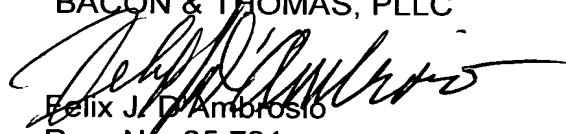
CONCLUSION

In view of the above, it is respectfully submitted that claims 7 - 12 should be as the disclosure is enabling for the invention as claimed.

Respectfully submitted

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APPENDIX OF CLAIMS
(37 CFR 41.37 (c)(1)(viii))

7. In a method of producing a rotary member made of a metallic plate by which there is formed, at the center of a plate-like metallic blank, a case-like boss which projects in one direction from the lateral side of the blank,

said method comprising the steps of:

curving a plate-like metallic blank such that said blank is convex in the direction in which a boss is adapted to project, has a resulting arcuate portion, and an outer peripheral edge portion as well; and

restraining the outer peripheral edge portion of the curved blank from extending radially outwardly while bending said resulting arcuate portion of the curved metallic blank in the direction opposite to the convex direction using a plurality of molds to gradually reduce the boss, so that the boss is case-like having an annular flat portion, such that the boss and annular flat portion have substantially the same thickness.

8. In a method of producing a rotary member made of a metallic plate by which a plate-like metallic blank is processed such that the blank is provided at the center thereof with a case-like boss projecting in one direction from one lateral side of the blank, and at the outer periphery thereof with a case-like peripheral wall concentrically projecting in the same direction in which the case-like boss projects,

said method comprising the steps of:

a first curving step of curving a plate-like metallic blank such that said blank is convex in the direction in which a boss is adapted to project, has a resulting arcuate

portion, and an outer peripheral edge portion as well;

restraining the outer peripheral edge portion of said curved blank from extending radially outwardly, while bending said resulting arcuate portion of the curved metallic blank in the direction opposite to the convex direction using a plurality of molds to gradually reduce the boss, so that the boss is case-like having an annular flat portion; and

a second curving step of pushing, with the case-like boss having the bottom restrained from being deformed, the inner peripheral portion of the annular flat portion in the direction in which said case-like boss projects, so that a case-like peripheral wall is formed, such that the boss, annular flat portion and said case-like peripheral wall have substantially the same thickness.

9. A method of producing a rotary member made of a metallic plate according to claim 8, further comprising the step of:

axially compressing the bottom of the case-like boss formed by said bending, such that said bottom becomes flat and is located at a predetermined projecting height.

10. A method of producing a rotary member made of a metallic plate according to claim 8, further comprising the step of:

axially compressing the case-like boss having the bottom formed by said bending, such that said bottom becomes flat and is located at a predetermined projecting height.

11. A method of producing a rotary member made of a metallic plate according to claim 8, further comprising the step of:

cutting the projecting end portion of the case-like boss having the bottom formed at the bending step after said second curving step, thus forming a shaft insertion hole therein.

12. A method of producing a rotary member made of a metallic plate according to claim 9, further comprising the step of;

cutting the projecting end portion of the case-like boss having the bottom formed at the bending step after said second curving step, thus forming a shaft insertion hole therein.

U.S. Pat. Appl. 09/638,032

EVIDENCE APPENDIX

There is attached a copy of the declaration of Mr. Yasuhiro Takahashi filed in parent application No. 08/146, 005 under 37 CFR 1.132.